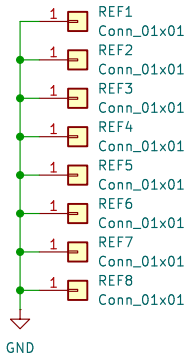

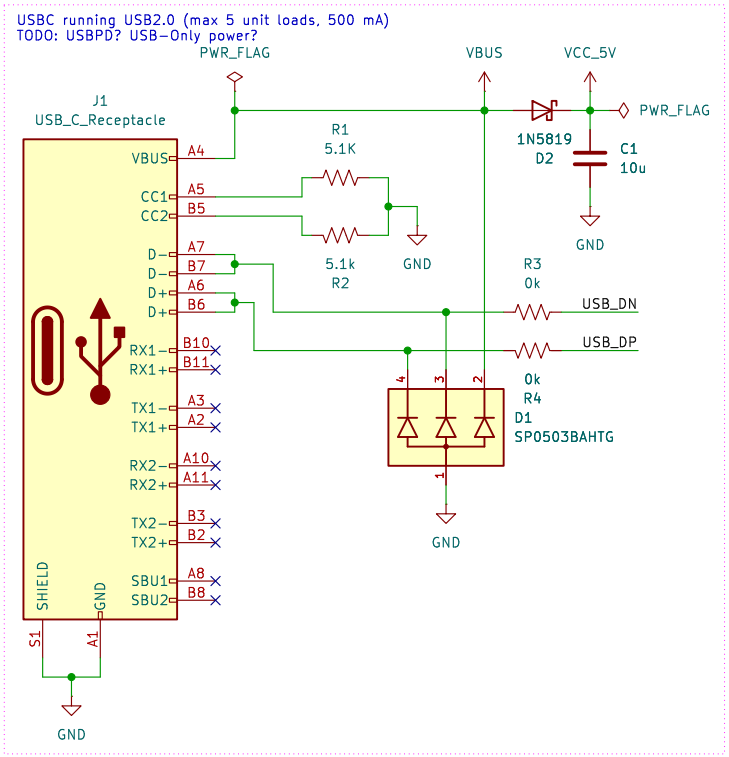

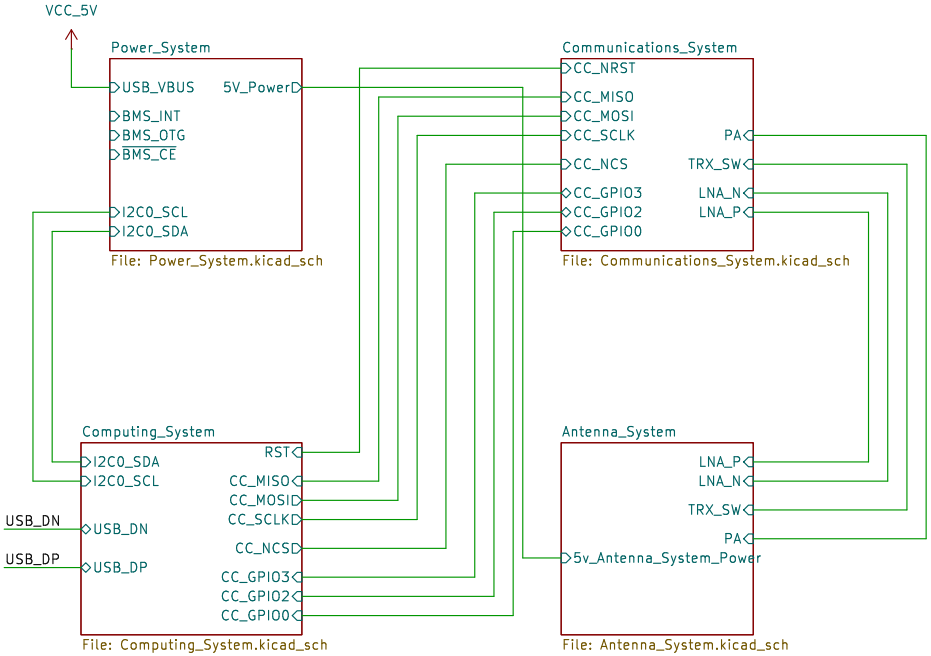

Sheet: /
File: Cobalt-Cowboy.kicad_sch

Title:

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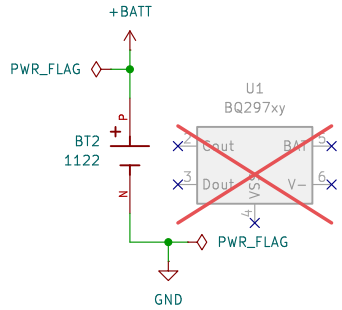
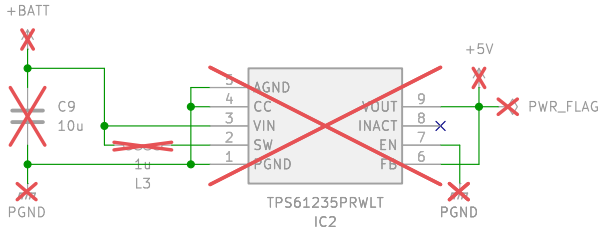
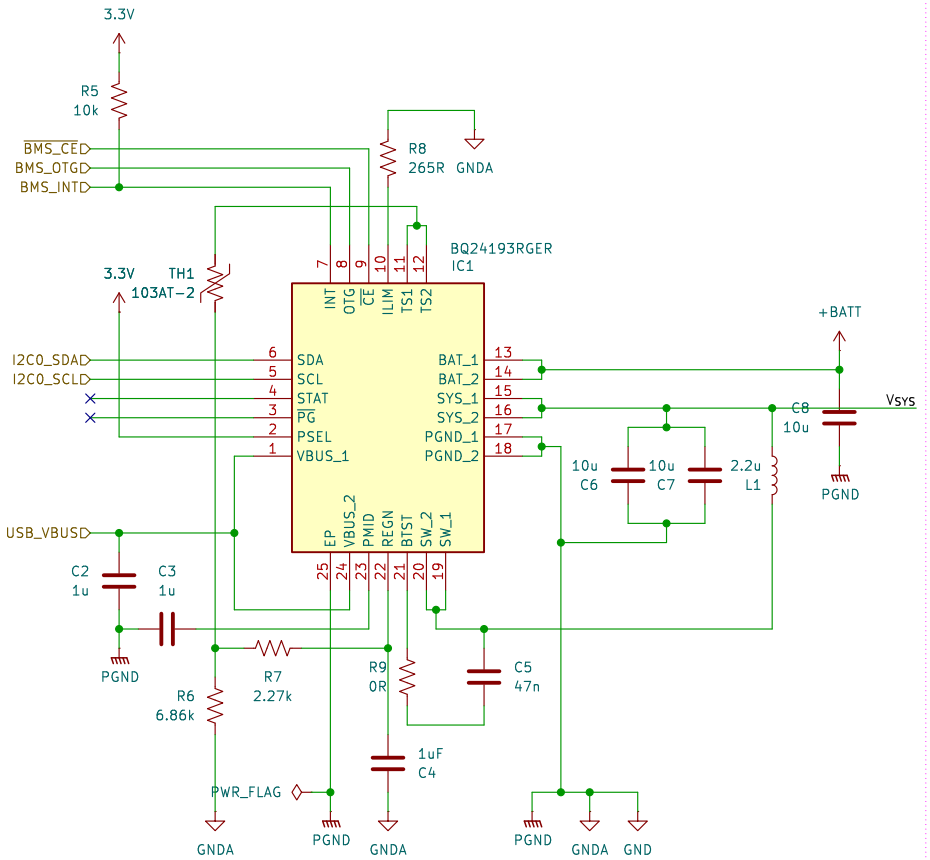
TODO: need a switch and MOSFETs



Switching 5.0V
Used by Antenna System



BMS Single-Cell

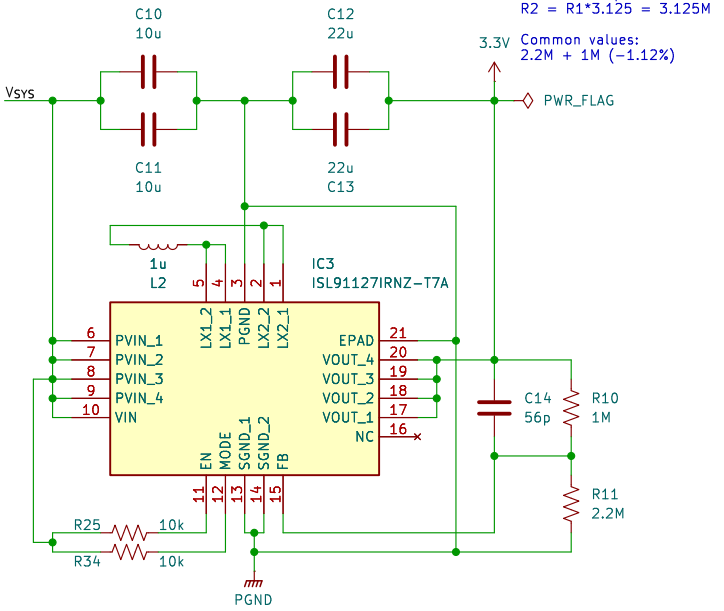


Regulated 3.3V
Used by Communications System

VOUT = 0.8V * (1 + R1/R2)
(3.3V)/0.8 - 1 = R1/R2

For R3 = 56p, R1 = 1M
R2 = R1*3.125 = 3.125M

Common values:
2.2M + 1M (-1.12%)



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Size: A4	Date:	**Rev:**
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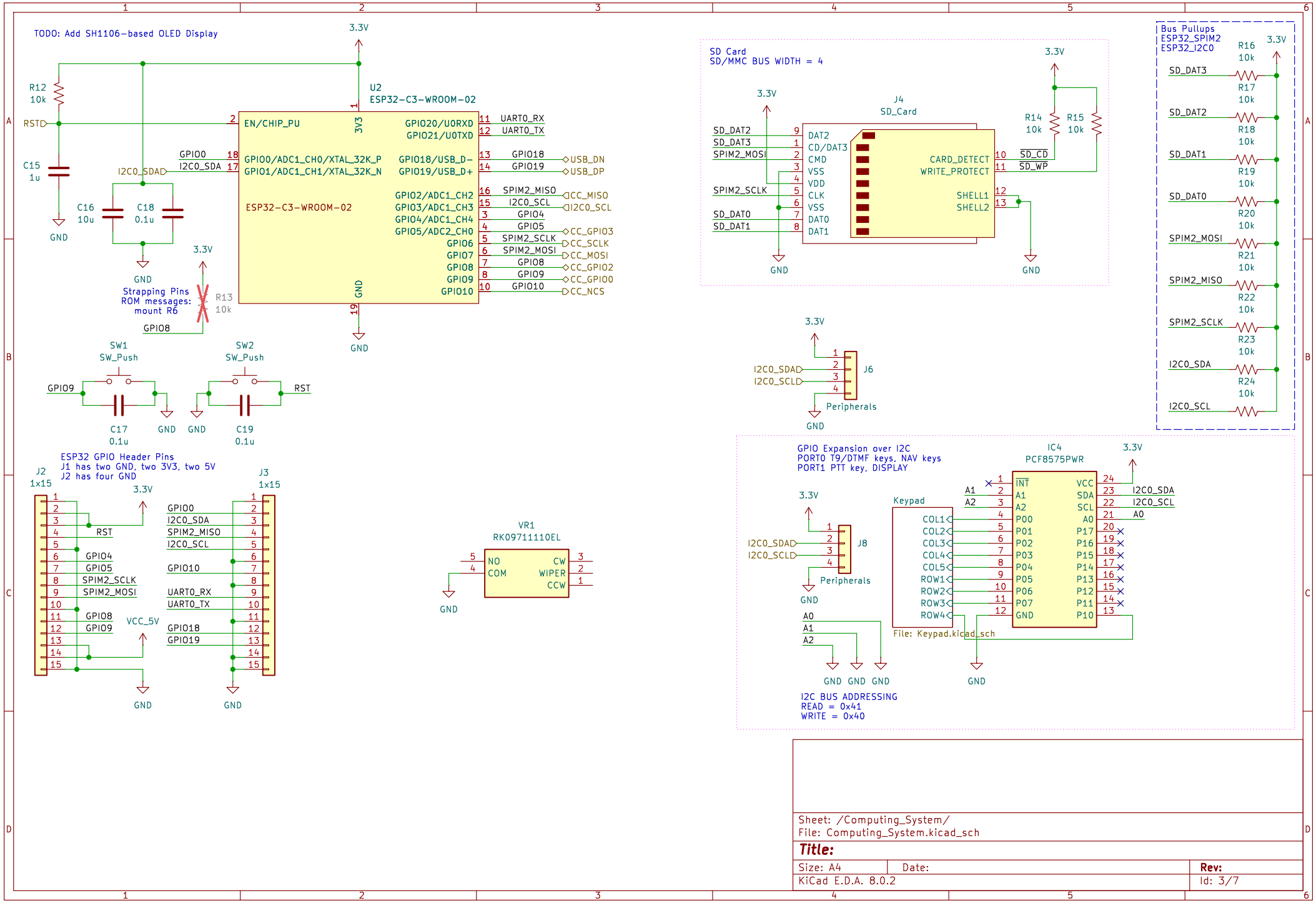
TODO: Add SH1106-based OLED Display
U2
ESP32-C3-WROOM-02
EN/CHIP_PU
3V3
GND
GPIO0/ADC1_CH0/XTAL_32K_P
GPIO1/ADC1_CH1/XTAL_32K_N
GPIO18/USB_D-
GPIO19/USB_D+
GPIO2/ADC1_CH2
GPIO3/ADC1_CH3
GPIO4/ADC1_CH4
GPIO5/ADC2_CH0
GPIO6
GPIO7
GPIO8
GPIO9
GPIO10
GPIO20/U0RXD
GPIO21/U0TXD
UART0_RX
UART0_TX
USB_DN
USB_DP
SPIM2_MISO
I2C0_SCL
GPIO4
GPIO5
SPIM2_SCLK
SPIM2_MOSI
GPIO8
GPIO9
GPIO10
CC_MISO
CC_SCLK
CC_MOSI
CC_GPIO2
CC_GPIO0
CC_NCS
I2C0_SDA
R12 10k
C15 1u
C16 10u
C18 0.1u
R13 10k
Strapping Pins
ROM messages:
mount R6
SW1
SW_Push
SW2
SW_Push
C17 0.1u
C19 0.1u
RST
ESP32 GPIO Header Pins
J1 has two GND, two 3V3, two 5V
J2 has four GND
J2 1x15
J3 1x15
VCC_5V
VR1
RK09711110EL
NO
COM
CW
WIPER
CCW
SD Card
SD/MMC BUS WIDTH = 4
J4
SD_Card
DAT2
CD/DAT3
CMD
VSS
VDD
CLK
VSS
DAT0
DAT1
CARD_DETECT
WRITE_PROTECT
SHELL1
SHELL2
SD_CD
SD_WP
R14 10k
R15 10k
J6
Peripherals
Bus Pullups
ESP32_SPIM2
ESP32_I2C0
R16 10k
R17 10k
R18 10k
R19 10k
R20 10k
R21 10k
R22 10k
R23 10k
R24 10k
GPIO Expansion over I2C
PORT0 T9/DTMF keys, NAV keys
PORT1 PTT key, DISPLAY
IC4
PCF8575PWR
J8
Keypad
File: Keypad.kicad_sch
I2C BUS ADDRESSING
READ = 0x41
WRITE = 0x40
Sheet: /Computing_System/
File: Computing_System.kicad_sch
Title:
Size: A4
Date:
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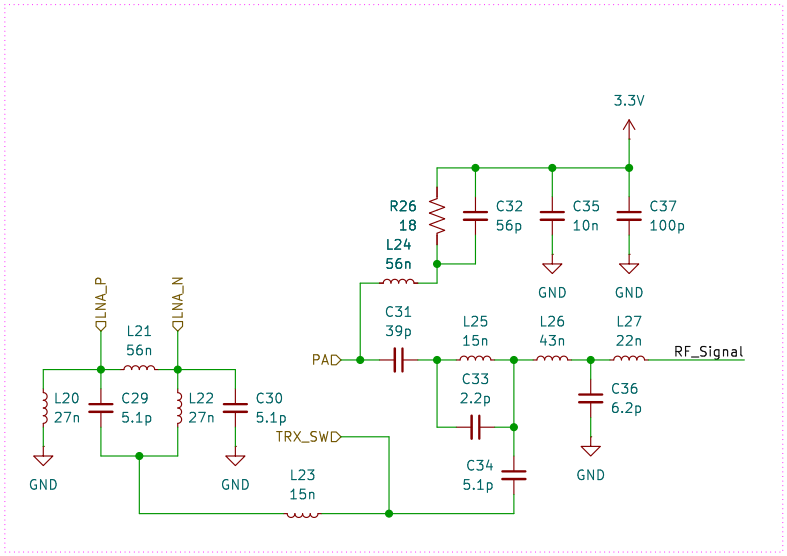

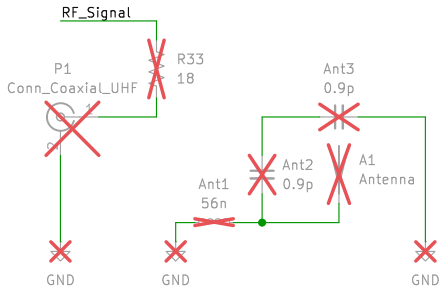

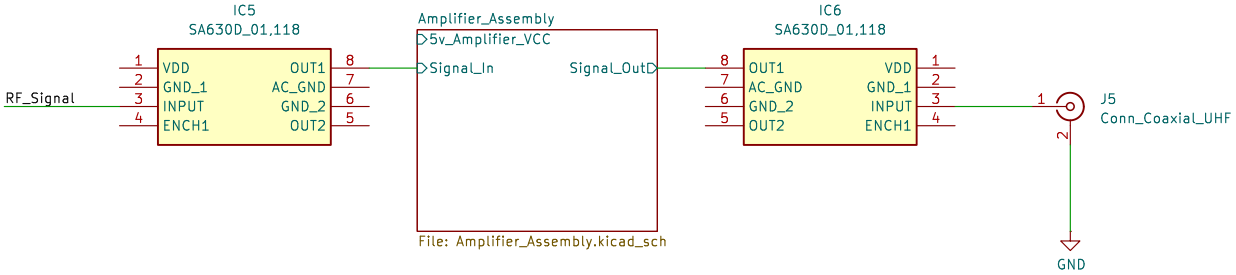

Sheet: /Antenna_System/
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Size: A4	Date:	**Rev:**
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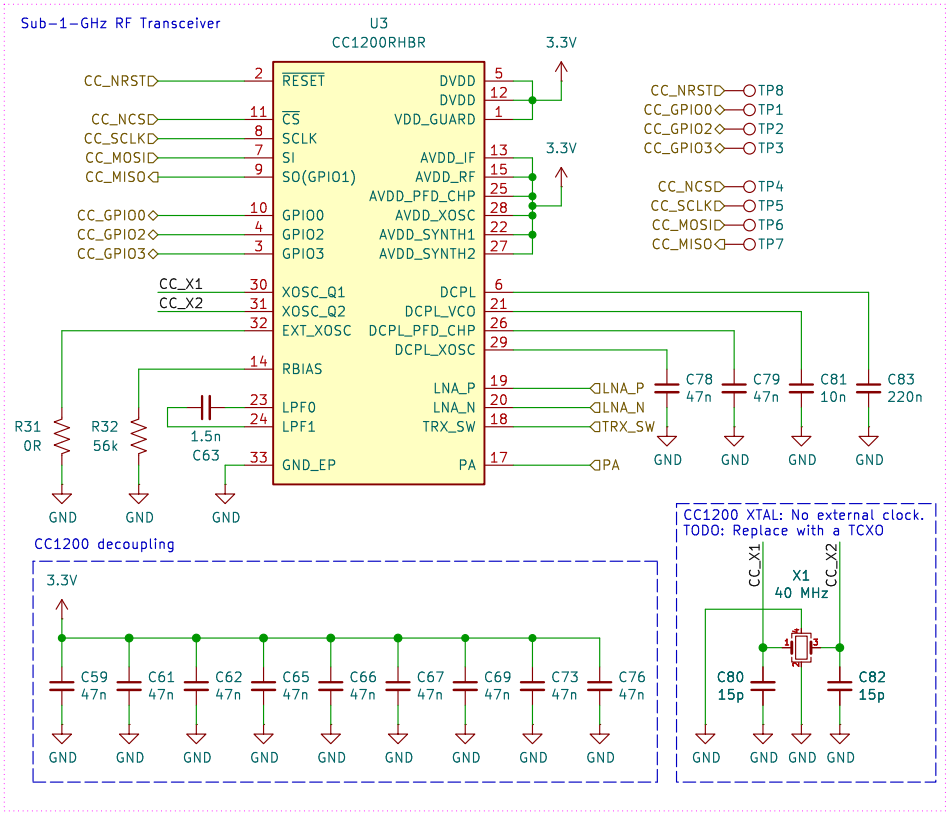

Sheet: /Communications_System/		
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Title: RF Communications System		
Size: A4	Date:	**Rev:**
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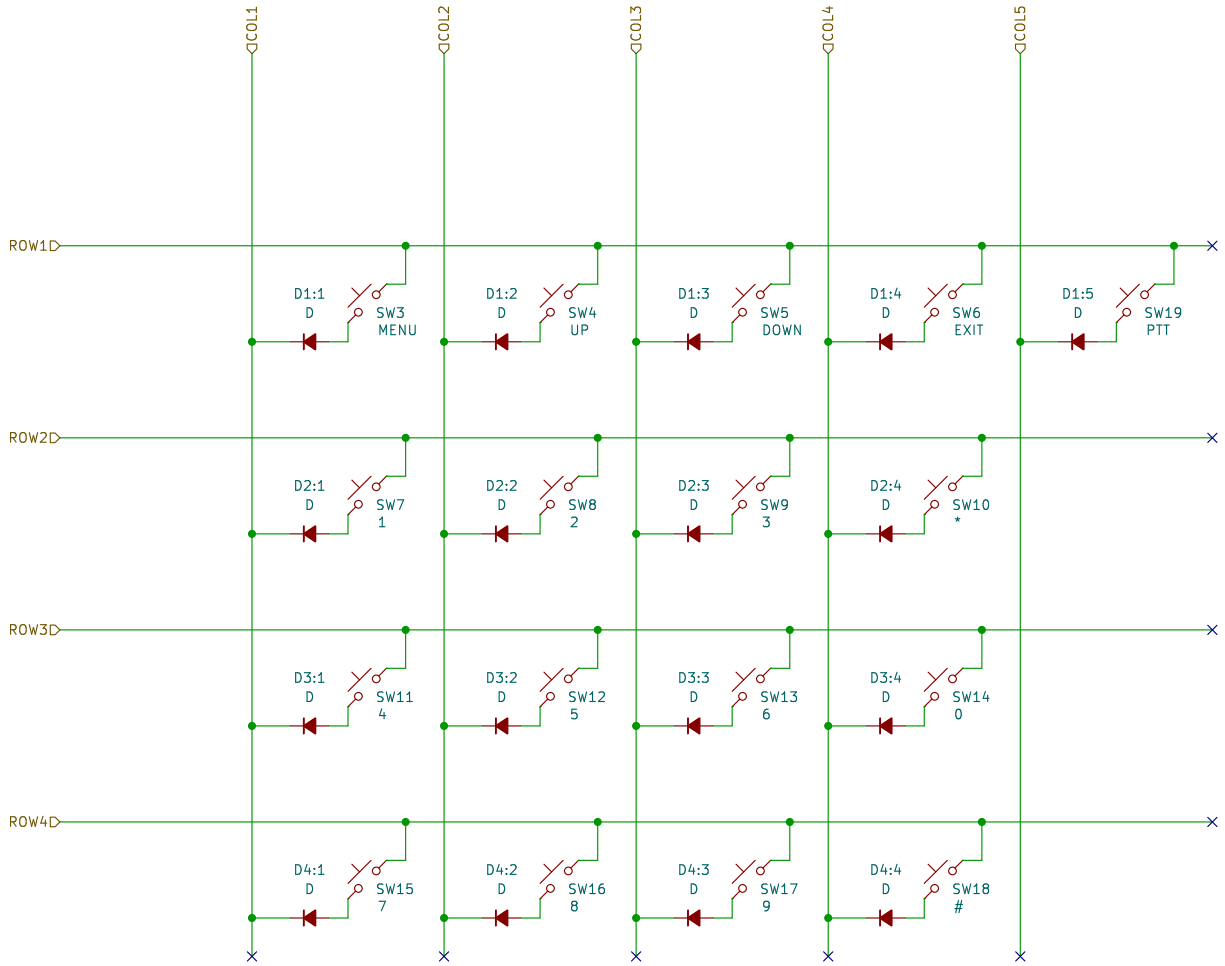
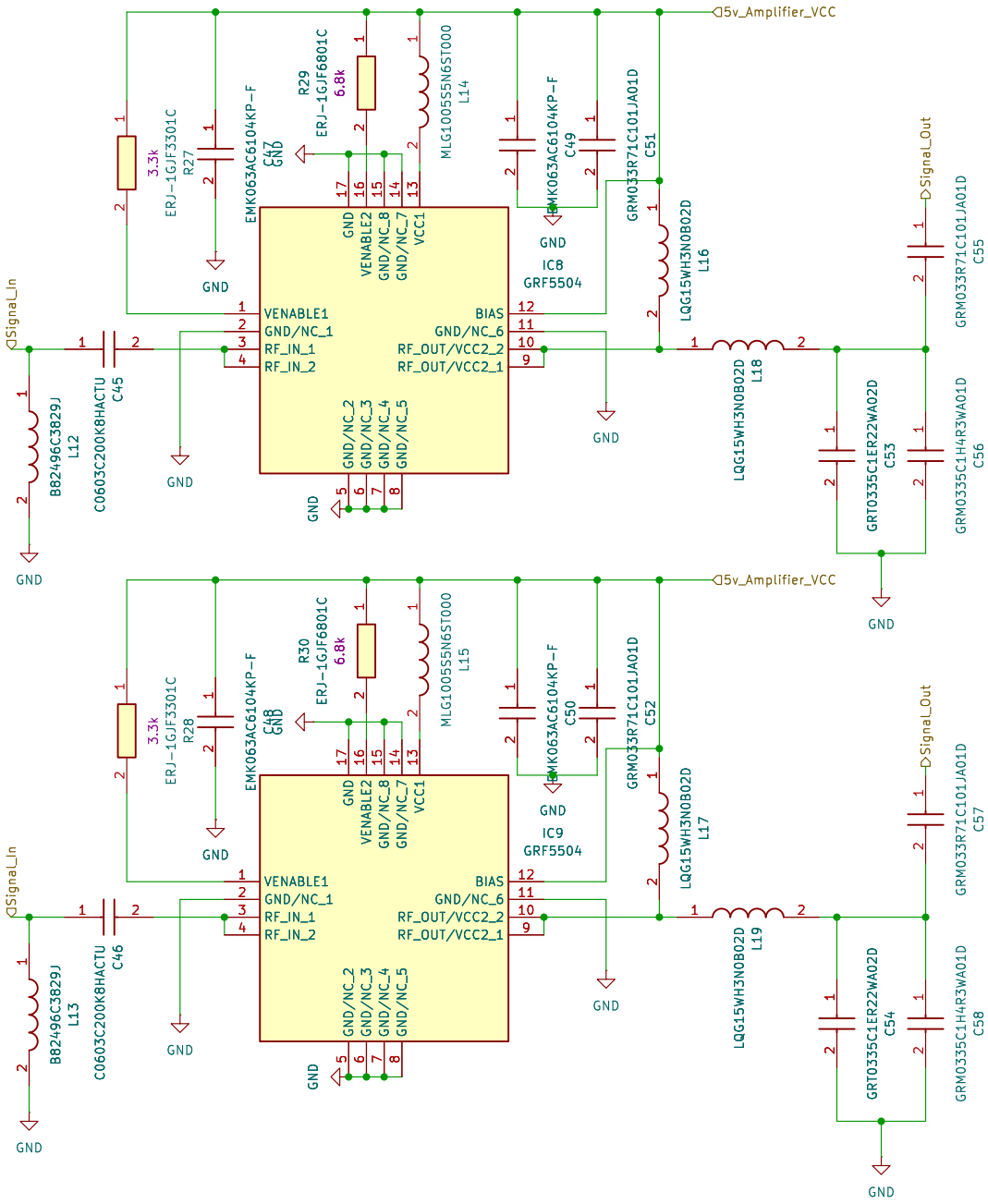
TODO: Need buttons and diodes



Sheet: /Computing_System/Keypad/		
File: Keypad.kicad_sch		
Title:		
Size: A4	Date:	**Rev:**
KiCad E.D.A. 8.0.2		Id: 6/7

TODO: This amplifier biasing topology only works for 440 MHz.
Need to find biasing for 142 MHz
TODO: Replace these components with Actual Values



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Size: A4	Date:	**Rev:**
KiCad E.D.A. 8.0.2		Id: 7/7